IOGEN®
CORPORATION

Loan Guarantee Program,
US Department of Energy
Washington, DC

Via Email to lgprogram@hq.doe.gov

SUBJECT: RIN 1901-AB21 – Loan Guarantees for Projects that Employ Innovative Technologies: Notice of Proposed Rulemaking (NOPR) and Opportunity for Comment

Iogen congratulates the Department of Energy (DOE) on the promulgation of the subject NOPR and is pleased to submit the following comments. DOE has done an admirable job of crafting these regulations. These comments are intended to further improve the loan guarantee program.

Iogen is a leading developer of cellulosic ethanol technology. The company has developed integrated pretreatment, enzyme production, hydrolysis, fermentation, and co-product processing technology for cellulosic ethanol. It operates both a $40 million semi-works cellulosic ethanol production facility and a commercial scale cellulase enzyme manufacturing facility in Ottawa, Canada. The semi-works facility has produced 68,000 gallons of cellulosic ethanol since it began ethanol operations in April 2004. This fuel has been used in a number of fleet operations in Canada and Europe.

Iogen has been working with DOE and the State of Idaho to develop a first-of-a-kind biorefinery in Idaho to demonstrate the commercial production of cellulosic ethanol with a stand-alone system that can be replicated on five major feedstocks with the potential for 32 billion gal/yr of production in over 25 states.

Over the past 25 years, Iogen has invested over $135 million researching, developing, piloting and demonstrating its cellulosic ethanol process. This effort has made Iogen one of the leading companies in the production of cellulosic ethanol. The result of this effort is a substantial body of validated data which serves as the basis for the design. We offer these comments from the perspective of a technology inventor and project developer.

In the NOPR Preamble, DOE recognizes that Public Law 110-5 provides $4 billion in Fiscal Year 2007 statutory loan guarantee authority, but does not explicitly state that DOE will apply this $4 billion to the pool of entities who submitted Pre-Applications under DOE's

310 HUNT CLUB ROAD EAST, OTTAWA, ONTARIO, CANADA K1V 1C1 TEL.: (613) 733-9830 FAX: (613) 733-0781

first solicitation during this Fiscal Year. DOE should clarify that it intends to apply the $4 billion to that solicitation.

We support DOE's position (as set forth in Section 609.1 of the NOPR) that provisions of the rule can apply to projects for which Pre-Applications were submitted under the first solicitation if both DOE and the Applicant agree. We support DOE's position that absent such an agreement, any conflicts between the guidance issued with the first solicitation and this rule will be resolved by adherence to the terms of the guidance. We absolutely oppose a suggestion made at the 15 June public meeting held at DOE that DOE ignore the Pre-Applications filed under the August 2006 solicitation and launch a new round of Pre-Applications to be governed by the rule-making. We and many others expended significant amounts of personnel resources in preparing a Pre-Application under the solicitation. Further, we believe the significant amount of flexibility DOE can afford itself in negotiations for loan guarantees to be issued under the solicitation and guidance will provide valuable experience for subsequent, perhaps larger, loan guarantees issued under the rule-making.

We also strongly oppose a suggestion made at the public meeting that the loan guarantee program be biased toward larger projects involving electricity generation from nuclear power or coal combustion/gasification. The President's "20 in Ten" initiative depends on the widespread deployment of advanced biofuels refineries, and the Title 17 loan guarantee program is a key element in facilitating that deployment. To bias the program or limit the definition of "qualified projects" to stationary power generation would run counter to those policy objectives.

Comments to proposed section 609.2

DOE specifically requested comments on the two alternatives for construing the phrase "in general use" in the definition of commercial technology, essentially offering a choice between five projects "ordered for, installed in, or used in" the United States versus one project that has been in operation for five years. It is difficult to see the justification for such a restrictive definition of the phrase "in general use." The financial community has displayed great reticence to provide capital for debt at reasonable commercial rates in support of new technologies that have not been widely demonstrated, and therefore it is unlikely that the cost of capital will be at all comparable to conventional energy technologies for new technologies that have merely been ordered five times or after the successful commercial operation of only one project for a period of only five years. More importantly, a loan guarantee that is issued but never exercised represents relatively insignificant costs to the U.S. government. Indeed, if the applicant provides both a non-refundable credit subsidy and administrative fees that cover the government's costs, projects that repay their debt obligations without triggering the government guarantee represent revenue raisers for the government.

Given a choice between financing a project at competitive commercial rates solely within the private sector, and incurring the significant costs entailed in securing a government loan guarantee, projects will always choose private competitive commercial rates. In other words, once a technology is truly in "general use" – as defined by the marketplace – then government loan guarantees will no longer be an attractive option for the project developers. Further, given the great differences between technology systems covered by the loan guarantee program, technology components that differ within those systems, and the markets in which those technology systems are deployed, it is unlikely that a single definition based on a bright line number of projects or years of operation will be more efficient than relying on market forces to determine the need for government loan guarantees.

If DOE believes it must adopt a bright line test, however, then for advanced biorefinery systems, we believe the next best policy is to combine the two alternatives into one modified definition. Thus, a particular technology component deployed in a biorefinery would be considered to be in general use if it has been installed or used in five or more projects in the United States for a period of five years.

We support DOE's position that attributes that will be considered in determining whether a technology is "new or significantly improved" must relate to energy production, use, efficiency, or transportation, rather than tangential qualities like aesthetics. DOE's definition of the phrase "new or significantly improved" – either "recently discovered or learned" or that "involve or constitute meaningful and important improvements in the productivity or the value of the technology" appears to be workable, but must be read in concert with DOE's definition of "commercial technologies."

Comments to Section 609.4

While we have submitted a Pre-Application in response to the August 2006 solicitation and are fully capable of meeting the requirements of that solicitation, we believe the requirements for the content of the Pre-Application result in unnecessary expenditures of time and effort on both the part of an applicant and on the part of the DOE review teams. In addition, there are elements of the requirements, such as a "copy of a commitment letter from an Eligible Lender or other Holder expressing its commitment to provide the required debt financing necessary to fully construct and fully commission the project," that are difficult, if not impossible, to provide at such an early stage of discussion about a potential federal loan guarantee. We suggest that DOE review the required content of the Pre-Application and move items that are more appropriate for later stages of negotiations to the Application phase. Even there, we urge DOE to recognize that project financing among multiple parties is an iterative process and that final commitments from any one party depend entirely on final commitments from all.

Comments to Section 609.7

We support DOE's position that projects that are solely research, development or demonstration projects will not be eligible for loan guarantees. The purpose of the loan guarantee program is to foster the commercial deployment of new technologies; other sources of funding are available to advance important RD&D activities.

DOE includes in its evaluation factors at proposed Section 609.7(b)(9) the issue of whether and "to what extent the Applicant will rely upon other Federal and non-Federal government assistance such as grants, tax credits, or other loan guarantees to support" the project. It is appropriate for such a factor to be considered. However, we believe a primary consideration should be a requirement for significant private equity involvement in projects seeking loan guarantees. Under no circumstances, should federal government assistance be counted toward the requirement for equity commitments. It is appropriate that DOE include federal government assistance only as an evaluation factor, and not as one of the six disqualifying conditions listed at 609.7(a), for four reasons.

First, additional government assistance reduces total project costs that must be capitalized by the applicant, thus reducing the size of the loan guarantee, increasing the likelihood of debt repayment, and allowing DOE to better leverage its participation in a variety of projects.

Second, the fact that a project has been successful in securing government assistance is a strong indicator of the project's strength, given the rigorous evaluation of projects that DOE (and presumably other agencies) conducts before providing assistance. That prior evaluation can then be employed as a "pre-screen" that identifies worthy projects for the subsequent loan guarantee, i.e., those projects that are most likely to result in debt repayment.

Third, the fact that non-Federal governments, whether States or localities, are providing assistance to a project is a sign of strong political and community support for the project, which in turn is an indicator of project strength and a high likelihood of debt repayment.

Fourth, the presence of federal government assistance does not, in itself, indicate the level of private commitment. For example, a project with 20% federal assistance, 50% loan guarantee, and 30% equity, could reasonably be preferred over a project with 80% loan guarantee and 20% equity.

As discussed above, when DOE issues a loan guarantee to a strong project that never triggers execution of the guarantee, the government actually receives a return on a quite modest investment. Thus, DOE would be better served by reversing the negative presumption set out in the "Discussion of Proposed Rule" section of the NOPR, and instead view the presence of other forms of Federal and non-Federal government assistance as a **positive** factor in evaluating loan guarantees applications, provided that there is ample private equity participation.

Comments to Section 609.10

We understand that DOE has and will receive a great number of inquiries and comments about the issue of limiting the coverage of the loan guarantee to less than 100 percent of the total face value of the loan(s) or other debt obligation(s) (Section 609.10(d)((3)). Iogen and its partners are committed to, and capable of, complying with the so-called "80 of 80" preference in the August solicitation. It is clear that to the extent that there is full coverage of debt by a federal loan guarantee, capital costs will be lower than they would be under any partial coverage, and in some ways such partial coverage is a less efficient means of ensuring private sector participation than would be a simple requirement that equity participation be robust, which again is a position that Iogen heartily endorses.

Compounding the inefficiency of the partial coverage approach in the NOPR is the provision, upon which DOE asked for specific comment, that prevents separating ("stripping") the guaranteed debt from the unguaranteed debt for purposes of marketing it in the secondary debt market (Section 609.10(d)(4)). It is our understanding that the financial markets are ill-equipped to handle such hybrid instruments, and we believe the same policy goal can be achieved by requiring robust equity participation. Nonetheless, we can and will comply with similar requirements that were contained in the August solicitation.

Thank you for this opportunity to comment.

Sincerely,

Brian Foody,

President